WE CLAIM:

1. A method for design optimization comprising steps of:
developing a plurality of single-disciplinary modules;
integrating said plurality of single-disciplinary modules into a multi-disciplinary module; and
performing system level optimization using said multi-disciplinary module.

2. The method of Claim 1 further comprising a step of performing system level sensitivity analysis using said multi-disciplinary module.

3. The method of Claim 1 wherein said step of developing said plurality of single-disciplinary modules comprises providing at least one simulation code, at least one simulation code input file, and at least one simulation code output file.

4. The method of Claim 3 wherein said step of developing said plurality of single-disciplinary modules comprises constructing a reusable component for each of said plurality of single-disciplinary modules, wherein said reusable component wraps said at least one simulation code by file parsing said at least one simulation code input file and said at least one simulation code output file.

5. The method of Claim 4 wherein said integrating step comprises interfacing said plurality of single-disciplinary modules wherein said reusable component of one of said plurality of single-disciplinary modules communicates with said reusable component of another of said plurality of single-disciplinary modules.

6. The method of Claim 5, wherein said integrating step comprises interfacing each of said plurality of single-disciplinary modules with at least one other of said plurality of single-disciplinary modules.

7. The method of Claim 1, wherein said step of performing system level optimization comprises concurrently performing single-discipline analyses using said plurality of single-disciplinary modules.

8. The method of Claim 7, wherein said step of performing single-discipline analyses includes performing a trajectory analysis.

9. The method of Claim 7, wherein said step of performing single-discipline analyses includes performing a thermal analysis.

10. The method of Claim 7, wherein said step of performing single-discipline analyses includes performing a TPS thickness analysis.

11. A method for design optimization comprising steps of:

providing at least one simulation code;

placing a simulation code input file in communication with said at least one simulation code;

placing a simulation code output file in communication with said at least one simulation code;

automating evaluation of outputs from said simulation code output file and selection of inputs to said simulation code input file; and

performing a single-discipline optimization using said inputs and outputs.

12. The method of Claim 11 further comprising a step of performing single-discipline sensitivity analysis using said inputs and outputs.

13. The method of Claim 11 wherein said step of automating comprises constructing a reusable component, wherein said reusable component wraps said at least one simulation code by file parsing said simulation code input file and said simulation code output file.

14. The method of Claim 11, wherein said step of performing single-discipline optimization includes performing a trajectory analysis.

15. The method of Claim 11, wherein said step of performing single-discipline optimization includes performing a thermal analysis.

16. The method of Claim 11, wherein said step of performing single-discipline optimization includes performing a TPS thickness analysis.

17. A system for design optimization comprising:

a plurality of single-disciplinary modules, each of said plurality of single-disciplinary modules having a simulation code; and

a multi-disciplinary module including said plurality of single-disciplinary modules wherein at least one of said plurality of single-disciplinary modules has an interface between reusable components, said interface between reusable components communicating with another of said plurality of single-disciplinary modules, whereby said plurality of single-disciplinary modules is integrated into said multi-disciplinary module.

18. The system of Claim 17, wherein each of said plurality of single-disciplinary modules has a simulation code input file in communication with said simulation code and a simulation code output file in communication with said simulation code.

19. The system of Claim 17, wherein each of said plurality of single-disciplinary modules has a reusable component in communication with said simulation code input file and in communication with said simulation code output file.

20. The system of Claim 19, wherein each of said reusable components communicates with said simulation code input file and said simulation code output file by file parsing said simulation code input file and said simulation code output file, whereby said simulation code is wrapped by said reusable component.

21. The system of Claim 20, wherein said at least one of said plurality of single-disciplinary modules communicates with said other of said plurality of single-disciplinary modules through said interface between reusable components by passing information from a first reusable component having a first wrapped simulation code of said at least one of said plurality of single-disciplinary modules to a second reusable component having a second wrapped simulation code of said other of said plurality of single-disciplinary modules.

22. The system of Claim 21, wherein each of said plurality of single-disciplinary modules communicates with at least one other of said plurality of single-disciplinary modules through said interface between reusable components by passing said information.

23. The system of Claim 17, wherein said plurality of single-disciplinary modules includes a trajectory analysis module.

24. The system of Claim 17, wherein said plurality of single-disciplinary modules includes a thermal analysis module.

25. The system of Claim 17, wherein said plurality of single-disciplinary modules includes a TPS thickness analysis module.

26. A system for design optimization comprising:

a plurality of single-disciplinary modules, each of said plurality of single-disciplinary modules having a simulation code, a simulation code input file in communication with said simulation code, a simulation code output file in communication with said simulation code, and each of said plurality of single-disciplinary modules having a reusable component in communication with said simulation code input file and in communication with said simulation code output file;

a multi-disciplinary module including said plurality of single-disciplinary modules wherein at least one of said plurality of single-disciplinary modules has an interface between reusable components to another of said plurality of single-disciplinary modules, wherein said at least one of said plurality of single-disciplinary modules communicates with said other of said plurality of single-disciplinary modules through said interface between reusable components by passing information from a first reusable component having a first wrapped simulation code of said at least one of said plurality of single-disciplinary modules to a second reusable component having a second wrapped simulation code of said other of said plurality of single-disciplinary modules, whereby said plurality of single-disciplinary modules is integrated into said multi-disciplinary module.